

## Environmental Protection Agency

## § 86.1537

### § 86.1526 Calibration of other equipment.

Other test equipment used for testing shall be calibrated as often as necessary according to good engineering practice.

[48 FR 52252, Nov. 16, 1983. Redesignated at 73 FR 37194, June 30, 2008]

### § 86.1527 Idle test procedure; overview.

(a) The idle emission test procedure is designed to determine the raw concentration (in percent) of CO in the exhaust flow at idle. The test procedure begins with the engine at normal operating temperature. (For example, the warm-up for an engine may be the transient engine or chassis dynamometer test.)

(b) Raw emission sampling must be made before dilution occurs from a single exhaust pipe in which exhaust products are homogeneously mixed. The configuration for dual-exhaust systems must also allow for raw emission measurements, which will require that an additional "Y" pipe be placed in the exhaust system before dilution.

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### § 86.1530 Test sequence; general requirements.

(a) The following test sequence lists the major steps encountered during the idle test:

Preparation

Warm-up (or Emission Test)

Preconditioning, 30 seconds minimum, six minutes maximum

Idle Stabilization, 30±5 seconds

Idle Emission Sampling, one minute minimum, six minutes maximum

These steps are described by subsequent procedures.

(b) Ambient test cell conditions during the test shall be those specified in § 86.130-78 or 40 CFR part 1065, subpart F.

[48 FR 52252, Nov. 16, 1983, as amended at 70 FR 40441, July 13, 2005. Redesignated at 73 FR 37194, June 30, 2008]

### § 86.1537 Idle test run.

The following steps shall be taken for each test:

(a) Check the device(s) for removing water from the exhaust sample and the sample filter(s). Remove any water from the water trap(s). Clean and replace the filter(s) as necessary.

(b) Set the zero and span points of the CO analyzer with the electrical spanning network or with analytical gases.

(c) Achieve normal engine operating condition. The transient engine or chassis dynamometer test is an acceptable technique for warm-up to normal operating condition for the idle test. If the emission test is not performed prior to the idle emission test, a heavy-duty engine may be warmed up according to 40 CFR part 1065, subpart F. A light-duty truck may be warmed up by operation through one Urban Dynamometer Driving Schedule test procedure (see § 86.115-78 and appendix I to this part).

(d) Operate the warm engine at 2500 ±50 rpm, or rated torque speed for diesel-cycle engines, and zero load for a minimum of 30 seconds and a maximum of 6 minutes.

(e) If the CVS sampling system is used, the following procedures apply:

(1) If bag samples are drawn, with the sample selector valves in the standby position connect evacuated sample collection bags to the dilute exhaust and dilution air sample collection systems.

(2) Start the CVS (if not already on), the sample pumps, integrators, and the raw CO<sub>2</sub> analyzer, as applicable. (The heat exchanger of the constant volume sampler, if used, shall be running at operating temperature before sampling begins.)

(3) Adjust the sample flow rates to the desired flow rate and set the gas flow measuring devices to zero.

(4) Operate the engine or vehicle at curb idle for 30±5 seconds with the clutch disengaged or in neutral gear. A heavy-duty engine may also be disconnected from the dynamometer, or the dynamometer may be shut off.

(5) Begin raw and dilute sampling.

(6) For bag sampling, sample idle emissions long enough to obtain a sufficient bag sample, but in no case shorter than 60 seconds nor longer than 6 minutes. Follow the sampling and exhaust measurements requirements of 40